

REMARKS

Claims 1, 3 and 4 are pending and under consideration in the above-identified application. Claims 2 and 5 were previously cancelled.

In the Final Office Action of November 17, 2009, the Examiner rejected claims 1, 3 and 4. In the Advisory Action, the Examiner indicated that claims 1, 3 and 4 remain rejected.

I. Claim Objection

Claim 1 was objected to for various informalities. Per the Examiner's suggestion, claim 1 was amended to correct the informalities. As such, the objection is now moot and Applicant respectfully requests that it is withdrawn.

II. 35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 1, 3 and 4 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto et al. (EP 0704921 A1) in view of Ikeda et al. (WO 01/29918; U.S. Patent No. 7,241,533 serving as English translation). Applicant respectfully traverses this rejection.

The claims require a battery that includes an anode that is made up of an anode current collector having a plurality of layers. Additionally, the claims require that an outer anode active material layer be disposed on an outer winding surface of the outer current collector layer and an inner anode active material layer be disposed on an inner winding surface of the inner current collector layer. The capacity ratio between the outer anode active material layer and the inner anode active material layer in at least one region is within a range of 0.6 to 0.8 inclusive.

As discussed in the specification, secondary batteries having a capacity ratio of 0.6 to 0.8 as required by the claims demonstrate superior cycle retention rates compared to batteries having a capacity ratio of 0.8 or more. Specification, page 27. Specifically, the cycle retention rate in the secondary batteries embodied by the invention are 60% or more when the capacity is 2260 mAh

or greater, whereas in the comparative examples having a similarly high capacity, the cycle retention rate is 50% or less. Specification, page 27 & Table 1.

The Examiner argues that the claimed invention merely covers the relationship between the thickness of the active material and increased capacity. Advisory Action, page 2. However, the range covered by the invention is not based solely on increased capacity, but also improved, indeed, superior cycle retention rates compared to secondary batteries known in the art. As shown in Comparative Examples 1-1 through 1-2, capacity ratios of more than 0.8 may increase the initial capacity, but with the increase in initial capacity there is a significant drop in the cycle retention rate, i.e. 50% or below. Specification, Table 1.

Applicant submits that the claimed capacity ratio demonstrates unexpected results because there is a significant improvement in cycle retention characteristics, when the capacity ratio is within the range of 0.6 to 0.8. This improvement is unexpected because the comparative examples show a decrease in cycle retention rates as the initial capacity increases. As such, the claimed ratio would not have been obvious in light of the prior art because as shown by the comparative examples as the capacity increases the cycle retention rates decreases, whereas the range required by the claims has increased capacity and significantly increased cycle retention rates.

As such, the above cited references fail either singularly or in combination with each other to teach or even fairly suggest all the requirements of the claims. As such, claims 1, 3 and 4 are patentable over the cited references. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

III. Conclusion

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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